



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

SEP 24 2015

REPLY TO THE ATTENTION OF:

**CERTIFIED MAIL: 7011 1150 0000 2641 2449**  
**RETURN RECEIPT REQUESTED**

**LU-9J**

Mrs. Jane Valenta, Vice President  
Environment, Health and Safety  
PPG Industries  
One PPG Place  
Pittsburgh, Pennsylvania 15272

Re: RCRA 3008(h) Administrative Order on Consent **RCRA-05-2015-0017**  
PPG Industries, Inc., Adrian, Michigan  
MID 048 788 749

Dear Mrs. Valenta:

I am enclosing a fully executed copy of the 3008(h) Administrative Order on Consent covering the completion of corrective action work at the subject facility. We look forward to working with your staff on this project.

In accordance with Section VI of the Administrative Order on Consent, I am hereby designating Joseph Kelly as the EPA project manager for this project. If you have any questions, please contact Mr. Kelly at (312) 353-2111 or by e-mail at [kelly.joseph@epa.gov](mailto:kelly.joseph@epa.gov).

Sincerely,

A handwritten signature in black ink, which appears to read "Jose G. Cisneros", is written over a horizontal line.

Jose G. Cisneros

Chief

Remediation and Reuse Branch

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5

IN THE MATTER OF:

PPG Industries, Inc.  
961 Division Street  
Adrian, Michigan  
EPA ID# MID048788749,

RESPONDENT

ADMINISTRATIVE ORDER ON CONSENT

EPA Docket No. **RCRA-05-2015-0017**

Proceedings under Section 3008(h) of the  
Resources Conservation and Recovery Act  
as amended, 42 U.S.C. § 6928(h).



I. JURISDICTION

1. The United States Environmental Protection Agency ("EPA") is issuing this Administrative Order on Consent ("Order") to PPG Industries, Inc. ("Respondent") for the performance of corrective action and funding for corrective action under Section 3008(h) of the Solid Waste Disposal Act, commonly referred to as the Resource Conservation and Recovery Act of 1976 ("RCRA"), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6928(h). The authority vested in the Administrator to issue orders under Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), has been delegated to the Regional Administrators, and further delegated to the Director, Land and Chemicals Division, EPA Region 5.

2. Respondent owns and operates a facility used for adhesive and sealant production, with a former drum storage area and underground storage tanks, at 961 Division Street, Adrian, Michigan (the "Facility"). EPA previously identified contaminant sources of concern at the Facility based on a report entitled "Preliminary Assessment/Visual Site Inspection", dated October 30, 1991. In 2013, EPA requested that Respondent conduct sampling and analysis for possible releases of hazardous wastes and hazardous constituents at or from these sources. EPA identified a total of twenty (20) Solid Waste Management Units and one Area of Concern. EPA identified an additional Area of Concern during a 2013 site visit.

3. Respondent agrees not to contest EPA's jurisdiction to issue this Order, to enforce its terms, or to impose sanctions for violations of the Order.

4. Respondent waives any rights to request a hearing on this matter pursuant to Section 3008(b) of RCRA, 42 U.S.C. § 6928(b), and 40 C.F.R. Part 24, and consents to this Order's issuance without a hearing under Section 3008(b) of RCRA, 42 U.S.C. § 6928(b), as a Consent Order issued pursuant to Section 3008(h) of RCRA, 42 U.S.C. § 6928(h).

II. DEFINITIONS

5. This Order incorporates the definitions in RCRA, 42 U.S.C. §§ 6901 - 6922k, and the regulations promulgated under RCRA unless otherwise specified.

### III. PARTIES BOUND

6. This Order applies to and binds EPA, Respondent and its agents, successors, assigns, trustees, receivers, and all persons, including but not limited to contractors and consultants, acting on Respondent's behalf in connection with implementing this Order. Respondent will be responsible for and liable for any violations of this Order, regardless of Respondent's use of employees, agents, contractors, or consultants to perform the work this Order requires.

7. No change in ownership or corporate or partnership status relating to the Facility will alter Respondent's obligations under this Order. Any conveyance of title, easement, or other interest in the Facility, or a portion of the Facility, will not affect Respondent's obligations under this Order. Respondent will give written notice of this Order to any successor in interest prior to transferring ownership or operation of the Facility or a portion thereof and will notify EPA in writing within ten days of the transfer. This written notice will describe how Respondent has assured that, despite the transfer, any and all institutional controls required now or in the future for the Facility will be implemented and maintained. This paragraph will not apply if EPA and Respondent agree that this Order has terminated as to the Facility or any relevant portion of the Facility.

### IV. DETERMINATIONS

8. After consideration of the Administrative Record, the Director, Land and Chemicals Division, EPA Region 5, has made the following conclusions of law and determinations:

- a. Respondent is a "person" within the meaning of Section 1004(15) of RCRA, 42 U.S.C. § 6903(15).
- b. Respondent is the owner or operator of a facility that has operated under interim status subject to Section 3005(e) of RCRA, 42 U.S.C. § 6925(e).
- c. Certain wastes and constituents found at the Facility, are hazardous wastes and/or hazardous constituents pursuant to Sections 1004(5) and 3001 of RCRA, 42 §§ 6903(5) and 6921, and 40 C.F.R. Part 261.
- d. There is or has been a release of hazardous wastes or hazardous constituents into the environment from the Facility.
- e. The actions this Order requires are necessary to protect human health or the environment.
- f. EPA and Respondent jointly prepared a document entitled Corrective action Framework ("CAF") dated 1-21-15, revised 4-17-15 and 5-6-15 (Attachment A) which describes the parties' understandings regarding future investigation and remediation work at the Facility. The CAF is not a formal agreement or contract and is neither enforceable nor determinative.

## V. PROJECT MANAGER

9. EPA and Respondent must each designate a Project Manager and notify each other in writing of the Project Manager selected within 14 days of this Order's effective date. Each Project Manager will be responsible for overseeing the Project's implementation. The parties must provide prompt written notice whenever they change Project Managers.

## VI. WORK TO BE PERFORMED

10. Pursuant to Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), Respondent agrees to and is hereby ordered to perform the actions specified in this section, in the manner and by the dates specified here. Respondent represents that it has the technical and financial ability to carry out corrective action at the Facility, Respondent must perform the work undertaken pursuant to this Order in compliance with RCRA and other applicable federal and Michigan laws and their implementing regulations, and consistent with all relevant EPA guidance documents as appropriate to the Facility and the work to be performed by the Respondent under this Order. This guidance includes, but is not limited to, the Documentation of Environmental Indicator Determination Guidance, relevant portions of the Model Scopes of Work for RCRA Corrective Action, EPA's ecological and human health risk assessment guidance, including Risk Assessment Guidance for Superfund, Ecological Risk Assessment Guidance for Superfund and other EPA risk assessment guidance documents. At the time of the effective date of the Order, these risk assessment documents can be found at or linked through:

[http://www.epa.gov/oswer/riskassessment/risk\\_superfund.htm](http://www.epa.gov/oswer/riskassessment/risk_superfund.htm)

11. Respondent will continue its ongoing investigation of contaminant sources at the Facility and further define the nature and extent of releases of hazardous waste and hazardous constituents at or from these sources as provided in this Paragraph 11. Respondent must assess such releases' effects on human health and the environment and their potential for cross-media contamination. Specifically, Respondent:

- a. Using the attached CAF (*draft dated 1-21-15, revised 4-17-15 and 5-6-15*) as a basis, will provide to EPA a Data Gap RCRA Facility Investigation (RFI) Work Plan ("Work Plan") which will include a Quality Assurance Project Plan ("QAPP") within 21 days of the effective date of the Order for EPA approval to perform a Data Gap RFI to identify the nature and extent of any releases of hazardous waste and hazardous constituents at or from selected areas at the Facility that may pose an unacceptable risk to human health and the environment. Specifically, Respondent shall further investigate the following selected areas of the Facility:
  - i. Solid Waste Management Units (SWMUs) 14, 15, 16, and 19 (former surface impoundments and a related trench);
  - ii. An area north of the Facility's main building where 1,1,1-trichloroethane (1,1,1,-TCA) has been previously detected near Monitoring Well MW-2;

- iii. An area northeast of the Facility's main building where soil piles were previously located in the vicinity of Monitoring Well MW-10; and
- iv. An area in the northeastern portion of the Facility where underground storage tanks were previously located.

The Data Gap RFI Work Plan will also contain a preliminary Conceptual Site Model ("CSM") consistent with the findings provided in the attached CAF, and a schedule for the completion of fieldwork outlined in the Data Gap RFI Work Plan.

- b. Will provide the Data Gap RFI Report to EPA for review and approval no later than 120 days after completion of the activities specified in the Data Gap RFI Work Plan and any subsequent Addendums. The Data Gap RFI Report must: (1) describe the nature and extent of any releases of hazardous waste and hazardous constituents at or from the selected areas at the Facility in Paragraph 11.a. above; (2) state whether each of those releases poses an unacceptable risk to human health and the environment; (3) provide the basis for those conclusions, including an evaluation of the risks; and (4) update the CSM based on the data from implementation of the Data Gap RFI Work Plan to provide a comprehensive CSM from the existing site-wide and supplemental data. The Data Gap RFI Report must also include a short discussion summarizing the Facility's historic operations and physical setting, past sampling history, and current conditions of areas where hazardous waste or constituent treatment, storage, or disposal has occurred or is occurring.

12. While performing the Data Gap RFI, if Respondent identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new solid waste management units not previously identified, then Respondent shall notify the EPA Project Manager within 48 hours of discovery and notify EPA in writing within 10 days of such discovery summarizing the immediacy and magnitude of the potential threat(s) to human health and/or the environment. Within 90 days of a request by EPA, Respondent shall submit for EPA review and approval any proposed interim corrective measures necessary to control current human exposures to contamination or to stabilize the migration of contaminated groundwater ("interim corrective measures"). The proposed interim corrective measures must contain a work plan and a project schedule. The EPA Project Manager will determine whether any public participation activities are appropriate prior to granting approval.

13. If required by EPA to perform interim corrective measures in accordance with Paragraph 12 of this Order, and where Restrictive Covenants are used as appropriate Corrective Measures to address potential exposures to onsite or off-site contamination, Respondent must demonstrate, using an Environmental Indicators Report as a guide according to the schedule provided in the Data Gap RFI Work Plan, and by performing any other necessary activities consistent with this Section, that:

- a. All current human exposures to contamination regarding the threat or release in question are under control. That is, significant or unacceptable exposures do not

exist by virtue of the threat or release for all media known or reasonably suspected to be contaminated with hazardous wastes or hazardous constituents above risk-based levels, for which there are complete pathways between contamination and human receptors.

- b. Migration of contaminated groundwater at or from the Facility is stabilized; that is, the migration of all groundwater known or reasonably suspected to be contaminated with hazardous wastes or hazardous constituents by virtue of the threat or release above acceptable levels is stabilized to remain within any existing areas of contamination as defined by monitoring locations designated at the time of the demonstration. In addition, Respondent must demonstrate that any discharge of groundwater to surface water is either insignificant or currently acceptable according to an appropriate interim assessment. Respondent must collect monitoring and measurement data in the future as necessary to verify that migration of any contaminated groundwater impacted by the threat or release is stabilized.

14. To prepare for and provide any demonstrations required by Paragraph 13, above, Respondent must:

- a. Determine appropriate risk screening criteria under current use scenarios and provide the basis and justification for the use of these criteria;
- b. Determine any current unacceptable risks to human health and the environment and describe why other identified risks are acceptable; and
- c. Prepare an interim corrective measures report, if needed for active cleanup, that describes and justifies any interim actions performed to meet this Section's requirements, including sampling documentation, construction completion documentation and/or confirmatory sampling results.

15. Within 120 days of EPA's approval of the final Data Gap RFI, Respondent shall submit a Final Corrective Measures Study ("CMS") Report outlining the measures necessary to protect human health and the environment from all current and future unacceptable risks due to releases of hazardous waste or hazardous constituents at or from the Facility. The CMS must describe all interim corrective measures implemented at the Facility required by EPA since this Order's effective date, and all measures proposed to eliminate current and future exposures. These measures may include restrictive covenants or other private environmental land use controls, ordinances imposing or relating to groundwater use restrictions, or active cleanup. The CMS must describe how the proposed corrective measures meet the remedy selection criteria guidance found in the Advanced Notice of Proposed Rulemaking, which at the time of the effective date of the Order can be found at:

<http://www.epa.gov/epawaste/hazard/correctiveaction/resources/guidance/anpr.htm>

The CMS must also include a description of other demonstrated, cost-effective or presumptively applicable final corrective measures that Respondent evaluated, a detailed explanation of why Respondent preferred the proposed final corrective measures, and cost estimates for the final

corrective measures evaluated. The proposal must also include a detailed schedule to construct and implement the final corrective measures, to memorialize land use restrictions, and to submit a Final Remedy Construction Completion Report. The proposed schedule must provide for Respondent to complete as much of the initial construction work as practicable within one year after EPA selects the final corrective measures and for Respondent to complete all final corrective measures within a reasonable period of time to protect human health and the environment.

16. As part of developing its Final CMS, Respondent must propose appropriate risk screening criteria, cleanup objectives, and points of compliance under non-residential current and future land use scenarios at the Facility and provide the basis and justification for these decisions. Off-site screening criteria may be residential, if applicable.

17. EPA may request supplemental information from Respondent if EPA determines that any submission required under this Order does not provide an adequate basis to select final corrective measures that will protect human health and the environment from the release of hazardous waste and hazardous constituents at or from the Facility. Respondent must provide timely any supplemental information that EPA requests in writing.

18. EPA will provide the public with an opportunity to review and comment on its proposed final corrective measures, including a detailed description and justification for the proposal ("Statement of Basis"). Following the public comment period, EPA will select the final corrective measures, and will notify the public of the decision and rationale in a "Final Decision and Response to Comments" ("Final Decision").

19. Upon notice by EPA, Respondent must implement the final corrective measures selected in EPA's Final Decision according to the schedule in the Final Decision.

20. Respondent will implement a land use restriction that restricts future use of the property to non-residential uses as part of the Final CMS proposal.

21. Reporting and other requirements:

- a. Respondent may consider green remediation best management practices when developing remediation plans and activities. If such practices are considered, Respondent will describe such consideration in reports, documentation and plans Respondent submits to EPA as required by this Order. This includes, where applicable, consideration of green remediation best management practices, as applicable, for site investigation, excavation and surface restoration, integrating renewable energy into site cleanup, soil vapor extraction and air sparging, pump and treat technologies, and landfill cover and energy production activities.
- b. Respondent may consider job creation, both temporary and permanent, when developing remediation plans and activities. If considered, Respondent will report on number and types of jobs created in reports, documentation and plans Respondent submits to EPA pursuant to this Order.



- c. Respondent must establish a publicly accessible repository for information regarding site activities and conduct public outreach and involvement activities.
- d. Respondent must provide semi-annual progress reports to EPA by the fifteenth day of the month after the end of each calendar half-year. The report must list work performed to date, data collected, problems encountered, project schedule, and percent project completed.
- e. The parties will communicate frequently and in good faith to assure successful completion of this Order's requirements, and will meet on at least a semi-annual basis to discuss the work proposed and performed under this Order.
- f. Respondent must provide a Final Remedy Construction Completion Report documenting all work that it has performed pursuant to the schedule in EPA's Final Decision. The Final Remedy Construction Completion Report must provide a description of the environmental results of the final remedy and any interim corrective measures including, but not limited to, (1) the volume (in cubic yards or gallons) for each of the following: soil, sediment, vapor, groundwater, surface water, and materials in containers addressed or to be addressed by the response actions; and (2) and an estimate of the mass of contaminants mitigated as part of those materials addressed.
- g. If ongoing monitoring or operation and maintenance is required after construction of the final corrective measures, Respondent must include an operations and maintenance plan in the Final Remedy Construction Completion Report. Respondent must revise and resubmit the report in response to EPA's written comments, if any, by the dates EPA reasonably specifies. Upon EPA's written approval, Respondent must implement the approved operation and maintenance plan according to the plan's schedule and terms.
- h. Preliminary evaluation by the parties has indicated that neither on-site nor off-site ecological receptors are expected to be of concern. However, if the additional data collected during the Data Gap RFI demonstrate that a risk assessment is necessary, then any risk assessments Respondent conducts will estimate human health and ecological risk under reasonable maximum exposure for both current and reasonably expected future land use scenarios. In conducting the risk assessments, Respondent will follow the Risk Assessment Guidance for Superfund ("RAGS") or other appropriate EPA guidance. Respondent will use appropriate, conservative screening values when screening to determine whether further investigation is required. Appropriate screening values include those derived from Federal Maximum Contaminant Levels, EPA Region 9 Preliminary Remediation Goals, EPA Region 5 Ecological Screening Levels, EPA Region 5 Risk Based Screening Levels, RAGS, or Michigan Revised Code Part 201.
- i. All sampling and analysis conducted under this Order must be performed in accordance with the Region 5 RCRA Quality Assurance Project Plan Policy (April 1998) as appropriate for the site, and be sufficient to identify and characterize the nature and extent of all releases as required by this Order. EPA



may audit laboratories Respondent selects or require Respondent to purchase and have analyzed any performance evaluation samples selected by EPA which are compounds of concern. Respondent must notify EPA in writing at least 14 days before beginning each separate phase of field work performed under this Order. At EPA's request, Respondent will provide, or allow EPA or its authorized representative to take, split or duplicate samples of all samples Respondent collects under this Order.

22. Project Managers can agree in writing to extend any deadline in this Section for 90 days or less. Extensions of greater than 90 days require written approval from the Chief of the Remediation and Reuse Branch, Land and Chemicals Division, EPA Region 5.

23. The parties acknowledge that Respondent is conducting simultaneous investigatory and potential remedial activities at the Site in accordance with the requirements of the Michigan Department of Environmental Quality's (MDEQ) Part 213 Leaking Underground Storage Tank Program. The Project Managers will coordinate with the MDEQ in an effort to avoid duplication of efforts and costs for the Respondent.

## VII. EPA APPROVAL OF DELIVERABLES

24. Respondent must submit deliverables required in Section VI ("Work to be Performed") above to EPA for approval or modification pursuant to Paragraph 25. All deliverables must be received at EPA within the periods specified in this Order. EPA will make good faith efforts to act pursuant to this Section on deliverables required in Section VI within 60 days of receipt.

25. After review of any deliverable that is required pursuant to this Order, EPA will: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondent modify the submission; or (e) any combination of the above. However, EPA will not modify a submission without first providing Respondent at least one notice of deficiency and an opportunity to cure within 20 days, except where EPA determines that to do so would cause serious disruption to the Work or where EPA has disapproved previous submission(s) due to material defects and EPA determines that the deficiencies in the submission under consideration indicate a bad faith lack of effort to submit an acceptable deliverable.

26. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Paragraph 25(a), (b), or (c), Respondent must proceed to take any action required by the deliverable, as approved or modified by EPA subject only to Respondent's right to invoke the Dispute Resolution procedures set forth in Section XII ("Dispute Resolution") with respect to the modifications or conditions made by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Paragraph 25(c) and EPA determines the submission has a material defect, EPA retains its authority to seek stipulated penalties, as provided in Section XI ("Penalties").

27. Resubmission of Deliverable. Upon receipt of a notice of disapproval, in whole or in part, pursuant to Paragraph 25(d), Respondent must, within 20 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the deliverable for approval. Any

stipulated penalties applicable to the submission, as provided in the Penalties Section, shall accrue as of the date the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 25 and 26.

28. Notwithstanding the receipt of a notice of disapproval pursuant to Paragraph 25(d), Respondent must proceed, at the direction of EPA, to take any action required by any non-deficient portion of the submission. Implementation of any non-deficient portion of a submission shall not relieve Respondent of any liability for stipulated penalties for the deficient portion of the deliverable under the Penalties Section.

29. In the event that a resubmitted deliverable, or portion thereof, is disapproved by EPA, EPA may again require Respondent to correct the deficiencies, in accordance with the preceding Paragraphs. EPA also retains the right to modify or develop the plan, report or other item. Respondent must implement any action as required in a deliverable which has been modified or developed by EPA, subject only to Respondent's right to invoke the procedures set forth in the Dispute Resolution Section.

30. If, upon resubmission, EPA disapproves or modifies a deliverable due to a material defect, Respondent shall be deemed to have failed to submit such deliverable timely and adequately unless Respondent invokes the dispute resolution procedures set forth in the Dispute Resolution Section and EPA's action to disapprove or modify a deliverable is overturned pursuant to that Section. The provisions of the Dispute Resolution and Penalties Sections shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is upheld, stipulated penalties shall accrue for such violation from the date on which the resubmission was disapproved by EPA.

31. All deliverables required to be submitted to EPA under this Order, shall, upon EPA's approval or modification, be incorporated into and be enforceable under this Order. In the event EPA approves or modifies a portion of a deliverable required under this Order, the approved or modified portion shall be enforceable under this Order.

#### VIII. ACCESS

32. Upon reasonable notice, and at reasonable times, EPA, its contractors, employees, and any designated EPA representatives may enter and freely move about the Facility to, among other things: interview Facility personnel and contractors; review Respondent's progress in carrying out this Order; conduct tests, sampling, or monitoring as EPA deems necessary; use a camera, sound recording, or other documentary equipment; and verify the reports and data Respondent submits to EPA. Respondent will permit such persons to inspect and copy all non-privileged photographs and documents, including all sampling and monitoring data, that pertain to work undertaken under this Order and that are within Respondent's possession or under its or its contractors and consultants' control. Respondent may request split samples, or copies of all photographs, tapes, videos or other recorded evidence EPA creates that are releasable under the Freedom of Information Act, 5 U.S.C. § 552a.

33. If Respondent must go beyond the Facility's boundary to perform work under this Order, Respondent must use its best efforts to obtain the necessary access agreements from the present

owner(s) of such property within 60 days after Respondent knows of the need for access. Any such access agreement must provide for access by EPA and its representatives. Respondent must submit a copy of any access agreement to EPA's Project Manager. If it does not obtain agreements for access within 60 days, Respondent must notify EPA in writing within 14 additional days of both the efforts undertaken to obtain access and the failure to obtain access agreements. EPA may, at its discretion, assist Respondent in obtaining access. Provided that if Respondent utilizes its best efforts to obtain necessary access agreements, stipulated penalties described in Section XI will not apply.

Nothing in this Section limits or otherwise affects EPA's right of access and entry under applicable law, including RCRA and the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA"), 42 U.S.C. §§ 9601-9675.

#### IX. COST ESTIMATES AND ASSURANCES OF FINANCIAL RESPONSIBILITY FOR COMPLETING THE WORK

34. Estimated Cost of the Work:

- a. Respondent must submit to EPA detailed written estimates, as described in Paragraph 35, in current dollars, of the cost of hiring a third party to perform the Work to Be Performed under Section VI of the Order ("Cost Estimate"). A third party is a party who (i) is neither a parent nor a subsidiary of Respondent and (ii) does not share a common parent or subsidiary with Respondent. Cost Estimates submitted under this Paragraph must be consistent with the requirements of 40 C.F.R. § 264.142 and § 264.144. References in these regulations to closure and post-closure shall mean the Work to Be Performed under Section VI of the Order.
- b. Within 30 days of EPA's approval of the Final CMS under Paragraph 15 or identification of conditions that require interim measures under Paragraph 12, Respondent must submit to EPA for review and approval a Cost Estimate of the Work to Be Performed under Section VI above. The Cost Estimate must account for the costs of the work necessary to meet the requirements of Paragraphs 15 through 21, including, but not limited to, proposals, reports, construction work, implementation, monitoring, and other long term care work.
- c. Respondent must annually adjust the Cost Estimate for inflation and for changes in the scope of the Work to Be Performed under Section VI. Within 30 days after the close of Respondent's fiscal year, Respondent must submit the annually adjusted Cost Estimate to EPA for review and approval.
- d. EPA will review each Cost Estimate Respondent submits and will notify Respondent of its approval, approval with modifications, or disapproval.
- e. If, at any time, EPA determines that a Cost Estimate provided pursuant to this Paragraph is inadequate, EPA shall notify Respondent in writing, stating the basis for its determination. If, at any time, Respondent becomes aware of information indicating that any Cost Estimate provided pursuant to this Section is inadequate, Respondent must notify EPA in writing of such information within ten (10) days.

Within 30 days of EPA's notification, or within 30 days of becoming aware of such information, as the case may be, Respondent must submit a revised Cost Estimate to EPA for review.

35. Assurances of Financial Responsibility for Completing the Work:

- a. Within 60 days after EPA approves the Cost Estimate, Respondent must establish and maintain financial assurance for the benefit of the EPA in the amount of the approved Cost Estimate. In the event that Respondent does not receive EPA approval of its Cost Estimate within 30 days after the close of Respondent's fiscal year ("fiscal year") during which the Cost Estimate was submitted, Respondent must establish and maintain the financial assurance in the amount of the Cost Estimate within 90 days after the close of such fiscal year. Respondent must adjust the financial instrument or financial test demonstration as necessary to reflect the most recent EPA-approved Cost Estimate within 90 days after the close of each fiscal year. In the event Respondent does not receive EPA approval of a revised Cost Estimate within 60 days after close of Respondent's fiscal year, Respondent must submit adjusted financial assurance instruments in the amount of the most recently submitted Cost Estimate. Respondent must use one or more of the following financial assurance forms:
  - i. A trust fund established for EPA's benefit, administered by a trustee who has the authority to act as a trustee under Federal or State law and whose trust operations are regulated and examined by a Federal or State agency, and that is acceptable in all respects to the EPA. The trust agreement must provide that the trustee must make payments from the fund as the Director, Land and Chemicals Division, EPA Region 5, shall direct in writing to (1) reimburse Respondent from the fund for expenditures made by Respondent for work performed under Section VI of the Order, or (2) to pay any other person whom the Director, Land and Chemicals Division, EPA Region 5, determines has performed or will perform the work under Section VI above. The trust agreement must further provide that the trustee must not refund to the grantor any amounts from the fund unless and until EPA has advised the trustee that the work under the Order has been successfully completed.
  - ii. A surety bond unconditionally guaranteeing performance of the Work to Be Performed under Section VI above, or guaranteeing payment at the direction of EPA into a standby trust fund that meets the requirements of the trust fund in Paragraph 35.a.i, above. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal Bonds as set forth in Circular 570 of the U.S. Department of Treasury.
  - iii. An irrevocable letter of credit, payable at the direction of the Director, Land and Chemicals Division, EPA Region 5, into a standby trust fund that meets the requirements of the trust fund in Paragraph 35.a.i, above. The letter of credit must be issued by a financial institution (i) that has the

authority to issue letters of credit, and (ii) whose letter-of-credit operations are regulated and examined by a Federal or State agency.

- iv. An insurance policy that (i) provides EPA with rights as a beneficiary which are acceptable to EPA; and (ii) is issued by an insurance carrier that (a) has the authority to issue insurance policies in the applicable jurisdiction, and (b) whose insurance operations are regulated and examined by a Federal or State agency. The insurance policy must be issued for a face amount at least equal to the Cost Estimate, except where costs not covered by the insurance policy are covered by another financial assurance instrument, as permitted in Paragraph 35.a. The policy must provide that the insurer shall make payments as the Director, Land and Chemicals Division, EPA Region 5, shall direct in writing (i) to reimburse Respondent for expenditures made by Respondent for work performed in accordance with this Order, or (ii) to pay any other person whom the Director, Land and Chemicals Division, EPA Region 5, determines has performed or will perform the work in accordance with this Order, up to an amount equal to the face amount of the policy. The policy must also provide that it may not be canceled, terminated or non-renewed and the policy shall remain in full force and effect in the event that (i) the Respondent is named as a debtor in a voluntary or involuntary proceeding under Title 11 ("Bankruptcy"), U.S. Code; or (ii) EPA notifies the insurer of Respondent's failure to perform, under Paragraph 37.
- v. A corporate guarantee, executed in favor of the EPA by one or more of the following: (1) a direct or indirect parent company, or (2) a company that has a "substantial business relationship" with Respondent (as defined in 40 C.F.R. § 264.141(h)), to perform the Work to Be Performed under Section VI above or to establish a trust fund as permitted by Paragraph 35.a.i., above; provided, however, that any company providing such a guarantee must demonstrate to the satisfaction of the EPA that it satisfies the financial test requirements of 40 C.F.R. § 264.143(f) with respect to the portion of the Cost Estimate that it proposes to guarantee.
- vi. A demonstration by Respondent that it meets the financial test criteria of 40 C.F.R. § 264.143(f) with respect to the Cost Estimate, provided that all other requirements of 40 C.F.R. § 264.143(f) are satisfied.

Any and all financial assurance documents provided pursuant to this Order must be submitted to EPA for review in draft form at least 30 days before they are due to be filed and must be satisfactory in form and substance, as EPA determines. Respondent must maintain adequate financial assurance until EPA releases Respondent from this requirement under Paragraph 33.c.

- b. Respondent must submit all original executed and/or otherwise finalized instruments to EPA's Regional Comptroller (MF-10.1), 77 W. Jackson Blvd., Chicago, IL 60604-3590, within 30 days after date of execution or finalization as required to make the documents legally binding. A transmittal letter stating the

name and RCRA ID number of the Facility, Respondent's name and address, and this Order's EPA docket number must accompany the instruments. Respondent must also provide copies to the EPA Project Manager.

- c. If, at any time, Respondent provides financial assurance for completion of the Work by means of a corporate guarantee or financial test, Respondent must also comply with the other relevant requirements of 40 C.F.R. § 264.143(f), 40 C.F.R. § 264.151(f), and 40 C.F.R. § 264.151(h)(1) relating to these methods, and will promptly provide any additional information requested by EPA from Respondent or corporate guarantor at any time.
- d. For purposes of the corporate guarantee or the financial test described above, references in 40 C.F.R. § 264.143(f) to "the sum of current closure and post-closure costs and the current plugging and abandonment cost estimates" shall mean "the sum of all environmental remediation obligations," including obligations under CERCLA, RCRA, Underground Injection Control ("UIC"), the Toxic Substances Control Act ("TSCA") and any other state or tribal environmental obligation, guaranteed by such company or for which such company is otherwise financially obligated in addition to the Cost Estimate.
- e. Respondent may combine more than one mechanism to demonstrate financial assurance for the Work to Be Performed under Section VI.
- f. Respondent may satisfy its obligation to provide financial assurance for the Work by providing a third party who assumes full responsibility for the Work and otherwise satisfies the obligations of this Order's financial assurance requirements; however, Respondent shall remain responsible for providing financial assurance in the event such third party fails to do so, and any financial assurance from a third party must be in one of the forms provided in Paragraphs 35.a.i. through 35.a.iv.
- g. If at any time EPA determines that a financial assurance mechanism provided pursuant to this Section is inadequate, EPA shall notify Respondent in writing. If at any time Respondent becomes aware of information indicating that any financial assurance mechanism(s) provided pursuant to this Section is inadequate, Respondent must notify EPA in writing of such information within thirty (30) days. Within 90 days of receipt of notice of EPA's determination, or within 90 days of Respondent's becoming aware of such information, Respondent must establish and maintain adequate financial assurance for the benefit of the EPA which satisfies all requirements set forth in this Section. Any and all financial assurance documents provided pursuant to this Order must be submitted to EPA for review in draft form at least 30 days before they are due to be filed and must be satisfactory in form and substance, as EPA determines.
- h. Respondent's inability or failure to establish or maintain financial assurance for completion of the Work shall in no way excuse performance of any of this Order's other requirements.

36. Modification of Amount and/or Form of Performance Guarantee:

- a. Reduction of Amount of Financial Assurance. If Respondent believes that the Cost Estimate has diminished below the amount covered by the existing financial assurance provided under this Order, Respondent may, at the same time that Respondent submits its annual Cost Estimate, submit a written proposal to EPA for approval to reduce the amount of the financial assurance to equal the revised Cost Estimate.
- b. Change of Form of Financial Assurance. If Respondent desires to change the form or terms of financial assurance, Respondent may, at the same time that Respondent submits the annual Cost Estimate, or at any other time agreed to by EPA in writing, submit a written proposal to EPA for approval to change the form of financial assurance. The written proposal must specify all proposed instruments or other documents required in order to make the proposed financial assurance legally binding and must satisfy all requirements set forth in this Section. Within thirty (30) days after receiving written approval of the proposed revised or alternative financial assurance, Respondent must execute and/or otherwise finalize all instruments or other documents required in order to make the selected financial assurance legally binding. Respondent must submit all executed and/or otherwise finalized instruments or other documents required in order to make the selected financial assurance legally binding to the EPA Comptroller's Office, with a copy to EPA's Project Manager, with a transmittal letter, as provided in Paragraph 35.
- c. Release of Financial Assurance. Respondent may submit a written request to the Director, Land and Chemicals Division, EPA Region 5, that EPA release Respondent from the requirement to maintain financial assurance under this Section once EPA and Respondent have both executed an "Acknowledgment of Termination and Agreement to Record Preservation and Reservation of Right" pursuant to Section XIX ("Termination and Satisfaction") of the Order. The Director, Land and Chemicals Division, EPA Region 5, shall notify both Respondent and the provider(s) of the financial assurance that Respondent is released from all financial assurance obligations under this Order.

37. Performance Failure:

- a. If EPA determines that Respondent (i) has ceased implementing any portion of the Work, (ii) is significantly or repeatedly deficient or late in its performance of the Work, or (iii) is implementing the Work in a manner that may cause an endangerment to human health or the environment ("Performance Failure") EPA may issue a written notice ("Performance Failure Notice") to both Respondent and the financial assurance provider of Respondent's failure to perform. The Performance Failure Notice will specify the grounds upon which it was issued and will provide Respondent with a period of 20 days within which to remedy the Performance Failure.
- b. Respondent's failure to remedy the Performance Failure to EPA's satisfaction before the expiration of the twenty-day notice period specified in Paragraph 37.a



shall trigger EPA's immediate access to and benefit of the financial assurance provided pursuant to Paragraphs 35.a.i, 35.a.ii, 35.a.iii, 35.a.iv, or 35.a.v. If EPA is unable, after reasonable efforts, to secure payment of funds or performance of work from the financial assurance provider, then upon written notice from EPA, Respondent must within 20 days deposit into an EPA-approved trust fund a cash amount equal to the most recent EPA-approved Cost Estimate.

#### X. RECORD PRESERVATION

38. Respondent must retain, during this Order's pendency and for at least six years after the Order terminates, all data and all final documents now in its possession or control or which come into its possession or control which relate to this Order. Respondent must notify EPA in writing 90 days before destroying any such records, and give EPA the opportunity to take possession of any non-privileged documents. Respondent's notice will refer to this Order's effective date, caption, and docket number, and will be addressed to:

Director  
Land and Chemicals Division EPA, Region 5  
77 W. Jackson Blvd.  
Chicago, IL 60604-3590

Respondent will also promptly give EPA's Project Manager a copy of the notice.

39. Within 30 days of retaining or employing any agent, consultant, or contractor ("agents") to carry out this Order, Respondent will enter into an agreement with the agents to give Respondent a copy of all data and final non-privileged documents produced under this Order.

40. Respondent will not assert any privilege claim concerning any data gathered during any investigations or other actions required by this Order.

#### XI. STIPULATED PENALTIES

41. Unless there has been a written modification by the EPA of a compliance date, a written modification by the EPA of an approved work plan condition, or excusable delay as defined by Section XIII (Force Majeure or Excusable Delay), if Respondent fails to comply with any term or condition set forth in this Order in the time or manner specified herein, EPA may, by written demand, direct Respondent to pay stipulated penalties as set forth below:

- a. For failure to commence, perform, and/or complete field work in a manner acceptable to EPA or at the time required pursuant to the Data Gap RFI Work Plan or this Order: \$1,000 per day for the first seven (7) calendar days of such violation; \$1,500 per day for the eighth through twenty-first day of such violation; and \$2,000 per day for each day of such violation thereafter;
- b. For failure to complete and submit any work plans or reports (other than progress reports) pursuant to the terms of this Order, or for failure to notify EPA of immediate or potential threats to human health and/or the environment, new releases of hazardous waste and/or hazardous constituents and/or solid waste

management units not previously identified, as required by this order: \$750 per day for the first seven calendar days of such violation; \$1,000 per day for the eighth through twenty-first day of such violation; and \$1,500 per day for each day of such violation thereafter;

- c. For failure to complete and submit other written submittals not included in Paragraph 41.b. of this Section pursuant to this Order: \$500 per day for the first seven days of such violation; \$750 per day for the eighth through twenty-first day of such violation; and \$1,000 per day for each day of such violation thereafter;
- d. For failure to comply with any other provision of this Order: \$750 per day for the first seven days of such violation; \$1,000 per day for the eighth through twenty-first day of such violation; and \$1,500 per day for each day of such violation thereafter.

42. Whether or not Respondent has received notice of a violation, stipulated penalties will begin to accrue on the day a violation occurs, and will continue to accrue until Respondent complies. Separate stipulated penalties for separate violations of this Order will accrue simultaneously.

43. Respondent must pay any stipulated penalties owed to the United States under this Section within 30 days of receiving EPA's written demand to pay the penalties, unless Respondent invokes the dispute resolution procedures under the Dispute Resolution Section. A written demand for stipulated penalties will describe the violation and will indicate the amount of penalties due.

44. Interest will begin to accrue on any unpaid stipulated penalty balance beginning 31 days after Respondent receives EPA's demand letter. Interest will accrue at the current value of funds rate established by the Secretary of the Treasury. Under 31 U.S.C. § 3717, Respondent must pay an additional penalty of six percent per year on any unpaid stipulated penalty balance more than 90 days overdue.

45. Respondent must pay all penalties by certified or cashier's check payable to the United States of America, or by wire transfer, and will send the check to:

US Environmental Protection Agency  
Fines and Penalties  
Cincinnati Finance Center  
PO BOX 979077  
St. Louis, MO 63197-9000

A transmittal letter stating the Facility's name, Respondent's name and address, and the EPA docket number of this action must accompany the payment. Respondent will simultaneously send a copy of the check and transmittal letters to the EPA Project Manager.

46. Respondent may dispute EPA's assessment of stipulated penalties by invoking the dispute resolution procedures under the Dispute Resolution Section. The stipulated penalties in dispute will continue to accrue, but need not be paid, during the dispute resolution period. Respondent

must pay stipulated penalties and interest, if any, according to the dispute resolution decision or agreement. Respondent must submit such payment to EPA within 30 days after receiving the resolution according to the payment instructions of this Section.

47. Neither invoking dispute resolution nor paying penalties will affect Respondent's obligation to comply with this Order not directly in dispute.

48. The stipulated penalties set forth in this Section do not preclude EPA from pursuing any other remedies or sanctions which may be available to EPA for Respondent's violation of this Order. However, EPA will not seek both a stipulated penalty under this Section and a statutory penalty for the same violation.

## XII. DISPUTE RESOLUTION

49. The parties will use their best efforts to resolve, informally and in good faith, all disputes or differences of opinion.

50. If either party disagrees, in whole or in part, with any decision made or action taken under this Order, that party will notify the other party's Project Manager of the dispute. The Project Managers will attempt to resolve the dispute informally.

51. If the Project Managers cannot resolve the dispute informally, either party may pursue the matter formally by placing its objections in writing. A written objection must state the specific points in dispute, the basis for that party's position, and any matters which it considers necessary for determination.

52. EPA and Respondent will in good faith attempt to resolve the dispute through formal negotiations within 21 days, or a longer period if agreed in writing by the parties. During formal negotiations, either party may request a conference with appropriate senior management to discuss the dispute.

53. If the parties are unable to reach an agreement through formal negotiations, within 14 business days after any formal negotiations end, Respondent and EPA's Project Manager may submit additional written information to the Director of the Land and Chemicals Division, EPA Region 5. EPA will maintain a record of the dispute, which will contain all statements of position and any other documentation submitted pursuant to this Section. EPA will allow timely submission of relevant supplemental statements of position by the parties to the dispute. Based on the record, EPA will respond to Respondent's arguments and evidence and provide a detailed written decision on the dispute signed by the Director of the Land and Chemicals Division, EPA Region 5 ("EPA Dispute Decision").

54. If, at the conclusion of the Dispute Resolution process, Respondent notifies EPA that it refuses to implement EPA's selected final corrective measures, EPA will endeavor to pursue the action(s) it deems necessary, if any, within a reasonable period of time.

### XIII. FORCE MAJEURE AND EXCUSABLE DELAY

55. Force majeure, for purposes of this Order, is any event arising from causes not foreseen and beyond Respondent's control that delays or prevents the timely performance of any obligation under this Order despite Respondent's best efforts.

56. If any event occurs or has occurred that may delay the performance of any obligation under this Order, whether or not caused by a force majeure event, Respondent must notify EPA within five business days after learning that the event may cause a delay. If Respondent wishes to claim a force majeure event, within 15 business days thereafter Respondent must provide to EPA in writing all relevant information relating to the claim, including a proposed revised schedule.

57. If EPA determines that a delay or anticipated delay is attributable to a force majeure event, EPA will extend in writing the time to perform the obligation affected by the force majeure event for such time as EPA determines is necessary to complete the obligation or obligations.

58. If EPA disagrees with Respondent's assertion of a force majeure event, the EPA will notify the Respondent in writing and Respondent may elect to invoke the dispute resolution provision, and shall follow such time frames set forth in Section XII (Dispute Resolution). In any such proceeding, Respondent shall have the burden of demonstrating that the delay or anticipated delay has been or will be caused by a force majeure event, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that the Respondent complied with the requirements of this Section. If Respondents satisfies this burden, the delay at issue shall be deemed not to be a violation of this Consent Order and the time for performance of such obligation will be extended by the EPA for such time is necessary to complete such obligation.

### XIV. MODIFICATION

59. This Order may be modified only by mutual agreement of EPA and Respondent, except as provided in Section VI (Work to be Performed). Any agreed modifications will be in writing, will be signed by both parties, will be effective on the date of signature by EPA, and will be incorporated into this Order.

### XV. RESERVATION OF RIGHTS

60. Nothing in this Order restricts EPA's authority to seek Respondent's compliance with the Order and applicable laws and regulations. For violations of this Order, EPA reserves its authority to bring an action to enforce this Order, to assess penalties under Section 3008(h)(2) of RCRA, 42 U.S.C. § 6928(h)(2), and to issue an administrative order to perform corrective actions or other response measures. In any later proceeding, Respondent shall not assert or maintain any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion, claim-splitting, or other defenses based upon a contention that the claims raised by the United States in the later proceeding were or should have been raised here. This Order is not a covenant not to sue, nor is it a release, waiver, or limitation of any of EPA's rights, remedies, powers, or authorities.

61. EPA reserves all of its authority to perform any portion of the work consented to here or any additional site characterization, feasibility study, and remedial work as it deems necessary to protect human health or the environment.

62. If EPA determines that Respondent's actions related to this Order have caused or may cause a release of hazardous waste or hazardous constituent(s), or a threat to human health or the environment, or that Respondent cannot perform any of the work ordered, EPA may direct Respondent to stop implementing this Order for the time EPA determines may be needed to abate the release or threat and to take any action that EPA determines is necessary to abate the release or threat.

63. Respondent does not admit any of EPA's factual or legal determinations. Except for the specific waivers in this Order, Respondent reserves all of its rights, remedies and defenses, including all rights and defenses it may have: (a) to challenge EPA's performance of work; (b) to challenge EPA's stop work orders; and (c) regarding liability or responsibility for conditions at the Facility, except for its right to contest EPA's jurisdiction to issue or enforce this Order. Respondent has entered into this Order in good faith without trial or adjudication of any issue of fact or law. Respondent reserves its right to seek judicial review of EPA actions taken under this Order, including a proceeding brought by the United States to enforce the Order or to collect penalties for violations of the Order.

#### XVI. OTHER CLAIMS

64. Respondent waives any claims or demands for compensation or payment under Section 106(b), 111, and 112 of CERCLA against the United States or the Hazardous Substance Superfund established by 26 U.S.C. § 9507 for, or arising out of, any activity performed or expense incurred under this Order. Additionally, this Order is not a decision on preauthorization of funds under Section 111(a)(2) of CERCLA.

#### XVII. INDEMNIFICATION OF THE UNITED STATES GOVERNMENT

65. Respondent indemnifies, saves and holds harmless the United States, its agencies, departments, agents, and employees, from all claims or causes of action arising from or on account of acts or omissions of Respondent or its officers, employees, agents, independent contractors, receivers, trustees, and assigns in carrying out activities required by this Order. This indemnification will not affect or limit the rights or obligations of Respondent or the United States under their various contracts. This indemnification will not create any obligation on the part of Respondent to indemnify the United States from claims arising from the acts or omissions of the United States.

#### XVIII. SEVERABILITY

66. If any judicial or administrative authority holds any provision of this Order to be invalid, the remaining provisions will remain in force and will not be affected.

## XIX. TERMINATION AND SATISFACTION

67. Respondent may request that EPA issue a determination that Respondent has met this Order's requirements for all or a portion of the Facility. Respondent may also request that EPA issue a "corrective action complete" or "corrective action complete with controls" determination for all or a portion of the Facility as described at 67 Fed. Reg. 9176, dated February 27, 2002.

68. This Order's requirements will be satisfied upon Respondent's and EPA's execution of an "Acknowledgment of Termination and Agreement on Record Preservation and Reservation of Rights", consistent with EPA's Model Scope of Work. EPA will prepare the Acknowledgement for Respondent's signature. The Acknowledgement will specify that Respondent has demonstrated to the satisfaction of EPA that the terms of this Order, including any additional tasks determined by the EPA to be required pursuant to this Order, have been satisfactorily completed.

69. Respondent's execution of the Acknowledgment will affirm its continuing obligation to preserve all records as required by Section IX, to maintain any necessary institutional controls or other long-term measures, and to recognize EPA's reservation of rights as required in Section XV.

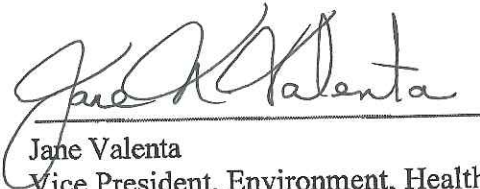
## XX. EFFECTIVE DATE

70. The effective date of this Order shall be five (5) calendar days after Respondent has received written notice from EPA, which notice must be provided via U.S. Mail, return receipt requested, that the EPA has signed the Order.

### IT IS SO AGREED:

DATE: 9/1/15

BY:



Jane Valenta

Vice President, Environment, Health and Safety  
PPG Industries, Inc.

### IT IS SO ORDERED:

DATE: 9/22/2015

BY:



Margaret M. Guerriero, Director Land and Chemicals  
Division  
U.S. Environmental Protection Agency Region 5

**RCRA-05-2015-0017**

# **Attachment A**



## **Corrective Action Framework – 1/21/15; revised 5/6/15**

PPG

MID048788749

961 Division Street, Adrian, Michigan

The Corrective Action Framework (CAF) is a tool intended to summarize the goals and expectations of the U.S. Environmental Protection Agency (EPA) and PPG Industries, Inc. (PPG) that will facilitate the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) at the PPG Adrian, Michigan facility. The CAF is not a legally binding document and does not alter any legal requirements under any permit or order applicable to the facility, nor is the CAF a substitute for a permit or order. Only where the CAF is expressly incorporated into a new permit (or order, for interim status facilities) or incorporated through a modification to an existing permit (or order for interim status facilities) will the CAF become an enforceable condition of the permit (or order, for interim status facilities). A 3008(h) administrative order on consent has been drafted and includes language that refers to this CAF. The CAF is also not expected to address every technical or administrative aspect or detail of the RFI. Rather, the CAF describes the discussions that took place during the CAF meeting or any subsequent meetings (e.g., elevation to management for resolution of differences to avoid delay). The CAF also documents material exchanged during the CAF meeting(s) which are necessary for the RFI to efficiently commence. Note that this CAF is a "living document" and is subject to change in light of new information or data.

### **I. CAF Meeting Participants**

*A CAF meeting was held on November 20, 2014 at EPA Region V headquarters in Chicago, Illinois.*  
*Participants included:*

- Tom Ebbert, Tim Richards, and Ken Laberde of PPG,
- Dean Calland of Babst Calland,
- Matthew Valentine of Cummings/Riter Consultants/Woodard & Curran,
- Tom Williams of Region 5 ORC, and
- Joseph Kelly, Mario Mangino, Michael Beedle, Jose Cisneros for Region 5 RRB.

### **II. Background**

The background section includes a physical site description, a discussion of the site history, and a summary of previous remedial actions. These topics will help provide some overall context to the CAF and will help guide the RFI.

#### **a. Physical Site Description**

The Site is located at 961 Division Street, Adrian, Lenawee County, Michigan and is currently operating as an Adhesives and Sealants Plant for the automotive industry. The Site is approximately 15-acres and is bordered to the west by Division Street, and to the north, south, and east by industrial operations. The facility parcel is located in a mixed industrial/residential area. The operational area contains approximately one acre of warehouse/production space.

## b. Site History

The property was formerly undeveloped fields and farmland located in a mixed rural/residential setting. In 1969, Hughes Chemical Company (Hughes) developed the land by constructing the main manufacturing building. PPG purchased the facility from Hughes in February 1982. The facility continues to be operated by PPG who produce adhesives and sealants for use in the automotive industry.

## c. Summary of Remedial Actions

There have been numerous site investigations and related remedial actions completed at the Site dating back to the late 1980's. The following was compiled from a variety of previous reports and provides a brief summary of the major remedial action activities that have been conducted to date:

- In 1990, PPG retained International Technology Corporation (IT) to conduct a soil contamination study in support of a closure plan for the Outside Container Storage Area 1 (Solid Waste Management Unit or SWMU 1). The closure plan had been approved by Michigan Department of Environmental Quality (MDEQ) in 1989. A total of 17 soil and 4 groundwater samples were collected. Laboratory results indicated that no significant sources of environmental impact were found and the closure proceeded without incident.
- In July 1992, PPG contracted with ATEC Associates to remove four, 12,000-gallon underground storage tanks (USTs) located on the north side of the main building on the property. The westernmost UST was used to store toluene. The remaining tanks in the area reportedly contained methyl ethyl ketone (MEK), petroleum naphtha, and xylene. Soil samples were collected and confirmed that a release had occurred and subsequently, ATEC reported the release to the Michigan State Police- Fire Marshal Division.
- Numerous soil samples were collected by ATEC and McLaren/Hart in 1992 and 1993 followed by extensive soil removal actions. Excavations were conducted in the UST and dispenser areas but were halted so as not to jeopardize the structural integrity of the main building. A closure report was prepared by McLaren/Hart for the UST area and submitted in September 1993.
- In April 1994, ChemRisk, a division of McLaren/Hart, completed a human health risk assessment (RA) to evaluate the residual risk of leaving the VOC-impacted soils in place. The RA indicated that based on the concentrations of ethylbenzene, toluene and xylene in soil there was no significant risk posed to human health via direct contact or inhalation.
- In February 1995, McLaren/Hart installed a groundwater monitoring well and subsequently discovered an immiscible layer of hydrocarbons floating on the groundwater. The product was later determined to be toluene. Proper reporting to MDEQ was completed and PPG immediately initiated abatement activities to remove the free product. These activities included removal by bailing and by use of passive free product recovery device.
- Following extensive hydrogeologic evaluations conducted in 1995 to delineate the toluene release, McLaren Hart installed a product recovery well (MW-1R) to remove free product from the release area. As of September 1996, the system had removed a total of 86 gallons of free product.

- In 1996, McLaren/Hart completed a feasibility study to evaluate potential remedial alternatives for addressing the toluene release. Dual vacuum extraction (DVE) was selected as the preferred alternative. This method involved extracting groundwater and free product from the subsurface, treating the vapors using catalytic oxidation, and treating groundwater using air stripping techniques. This DVE system was designed and installed by Terra Vac and began operation in December 1996. The DVE extraction system operated for approximately eight months after which findings indicated that the free product was nearly abated and soil off-gas concentrations were declining over time.
- To address residual dissolved phase in groundwater, an in-situ chemical oxidation (ISCO) program was implemented consisting of two batch treatments followed by performance monitoring. In September 2000, groundwater monitoring results had indicated that the ISCO treatment was marginally successful in reducing dissolved phase concentrations. Furthermore, a small amount of free product (3 inches) had returned to Recovery Well MW-1R.
- In 2001, PPG contracted with August Mack to attempt to locate the potential source of the free product remaining at the site as well as delineating its extent. Investigation results indicated that product in the soil and beneath the former UST area had been remediated and that the source of the free product found in several wells was likely to be from residual “pockets” of product in the soil beneath the building. Plans were immediately made to institute interim product recovery utilizing wells that were previously used as part of the ISCO injection program.
- As of January 2005, August Mack reported in their Final Quarterly Free Product Recovery Report that a total of 449 gallons of free product had been recovered from the site, 435 cubic yards of soil was remediated, and 17,969 gallons of groundwater had been remediated through various efforts.
- Several other UST removal and closure activities have been completed at the Site and included limited soil excavation and disposal. Although detailed documentation was not located, it is believed that (based on PPG standard operating procedures), proper reporting and documentation were believed to be completed and submitted in accordance with MDEQ regulations. Examples of these removals include:
  - In December 1987, three USTs referred to as Tanks 8/9, 10, and 11 were removed. Soil samples collected from below and around the perimeter of the tanks. Liquid rinsate samples were also collected and analyzed. Sample analysis was conducted by Aqualab, Inc. of Bartlett, Illinois. Dames and Moore prepared a report titled, “Soil Contamination Assessment in conjunction with the Removal of Three Underground Storage Tanks,” dated January 29, 1988. With the exception of tri-octyl phosphate, no other compounds were reported above method detection limits. Although no description or map were provided to indicate the locations of the tanks but they are believed to be tanks associated with Solvent Station II and contained naphthol spirits, tri-octyl phosphate, isopentane/isohexane, and textile spirits.
  - Five USTs believed to be associated with Solvent Station III were reportedly removed in September and October 1988. The tanks contained MEK, xylene, toluene, and petroleum naphtha. A total of 15 soil samples were collected by IT Corporation with laboratory results indicating that no significant sources of environmental impact were identified.

Groundwater monitoring has occurred from the early 1990s through 2005 for purposes of site characterization, delineation, and performance monitoring. Additionally, long-term groundwater monitoring has been ongoing since 2005 and is currently being conducted on a semiannual basis by Groundwater and Environmental

Services, Inc. As of the December 2014 event, only 2 additional gallons of product have been removed (by periodic bailing) in the release area indicating the product source has effectively been removed from the subsurface. Monitoring results indicate that impacted dissolved phase groundwater is not migrating from the Site.

### III. Site Characterization

As described above, significant characterization and remediation efforts have been conducted at the site over the past 30 years. However, soil borings will be installed to address data gaps in investigation activities conducted to date. The facility is subject to site-wide Corrective Action as a result of its prior interim status hazardous waste storage area formerly operated by Hughes and currently operated by PPG. Sources of potential contamination will be assessed further to evaluate risks to human health and the environment. Samples of soil and groundwater will be analyzed for select MI Part 201 parameters, including volatile organic compounds (VOCs) (including 1,4-dioxane), semivolatile organic compounds (SVOCs), and metals.

#### a. Environmental Characteristics

A poorly drained, silty clay soil is present at the surface of the site to an approximate depth of 15 to 35 feet below ground surface (bgs), followed by a sand unit at greater depths. Approximately half of the site is unpaved and undeveloped. Groundwater flow is towards the southwest, and static groundwater is present at a depth of approximately 33 to 39 feet bgs. The municipality provides drinking water in the area, and there are no surface water features within more than 1 mile of the site.

#### b. Area of Concern (AOC)/Solid Waste Management Unit (SWMU) Descriptions

As previously discussed, the PA/VSJ completed for the site in 1991 identified 20 SWMUs and 1 Area of Concern (AOC) at the site, and recommended investigation of four of the site's SWMUs (the surface impoundments and trench, and underground storage tank [UST] area). A limited amount of data is available that documents minor impacts near those SWMUs. However, most of the data was collected upgradient from the SWMUs, and none of the data was collected in close proximity to the former units. Further, no permanent groundwater monitoring wells are located immediately downgradient from any of the former land-based units because the majority of investigation work at the site to date relates to releases near former UST systems (Releases #C-0155-92 and #C-1142-92). Historical wastes generated included D001, D002, D003, D009, D035, D036, F003, F005, and U151, among others. The PA/VSJ listed the following summary of SWMUs and AOC:

- SWMU 1 is the former closed RCRA Interim Status outside container storage area.
- SWMUs 2 through 4 are former outside <90 day container storage areas.
- SWMUs 5 through 8 are former inside <90 day container storage areas.
- SWMUs 9 through 13 are former inside <90 day container accumulation areas.
- SWMUs 14 through 16 are former surface impoundments.
- SWMU 17 is a former above ground storage tank.
- SWMU 18 consists of the baghouse dust collectors (9).
- SWMU 19 is a former trench (for disposition of materials excavated from SWMU 14-16).
- SWMU 20 is a former treatment process area (information unavailable).
- AOC 1 consists of the former solvent product USTs.

A second AOC (AOC 2) not included in the PA/VSIs consists of an area where stockpiled soil was identified during a 2013 site visit. AOC 2 is located in the northeastern portion of the property.

c. Previous Releases

Potential releases have been identified at two of the three UST areas, and upgradient from one of the former surface impoundments (SWMU 14). The Michigan Department of Environmental Quality (MDEQ) database also identifies two reported site releases (#C-0155-92 and #C-1142-92). Toluene was the product released under both reported releases. The majority of recent information relates to one of those releases which was associated with a former UST area (known as Solvent Station I). In this area, the heaviest documented impacts appear to be related to a release from a former dispenser and related UST systems. The facility is reporting to the State of Michigan in connection with the releases, and most of the recent site work is being performed under Michigan's Part 213 Program. Toluene in this area was historically found at levels up to 210 parts per million (ppm) in groundwater, and 22,000 ppm in the soil suggesting that free product toluene existed upgradient of those sample locations. A Groundwater Monitoring Report (GWMR) prepared for PPG by Groundwater & Environmental Services, Inc. (dated November 2014) was recently provided to EPA. This report demonstrates that constituent of concern (COC) concentrations in site monitoring wells have been decreasing over the past several years. The maximum toluene concentration in groundwater samples collected in June 2014 was 5.7 ppm (at one monitoring well location). Significant remedial efforts have been conducted by PPG to address the toluene release including the completion of dual-phase extraction, soil vapor extraction, and free product recovery. VOCs persist in the area of the USTs, but the contaminant plume appears to be small and may be stable or shrinking. Furthermore, indoor air sampling from 2000 suggests that exposure via the vapor intrusion (VI) pathway is not a concern. EPA will work with MDEQ to verify their oversight of these releases as part of the Corrective Action work because MDEQ has the lead in addressing UST investigation and closure. It is noted that PPG continues to work directly with MDEQ to close out the toluene releases. Future related activities will be conducted in coordination with EPA.

Limited work was performed to assess other areas where potential releases may have occurred. A field screening of soil borings was conducted in 1987 near one of the UST areas and SWMU 14, northeast of the subject building. Subsequent soil sampling found no evidence of confirmed impacts, but samples were collected at great distances from the original sampling locations and upgradient from the AOCs, and detection limits for samples exceeded 1 ppm. In addition, 1,1,1-TCA was found in the groundwater north of the subject building, but the source of the release has not been identified from the limited sampling completed to date.

d. RCRA Interim Status

Hughes submitted a Part A permit application on November 14, 1980, and operated an outside container storage area under interim status. PPG resubmitted a Part A application in 1982 after purchase. The facility withdrew the application in 1988, and clean-closed the storage area by State certification on February 11, 1993.

e. Other Permitted Activities (e.g., National Pollutants Discharge Elimination System [NPDES], Stormwater, Air)

Clean Air Act: Operating SIP Title V Permits (2609100082)

Clean Water Act: Minor NPDES Individual Permit, Permit Terminated (MIG250413), Minor NPDES Individual

Permit, Permit Terminated (MI0026956) -- discharge of up to 165,000 gallons per day of non-contact cooling water and storm water to River Raisin via Savage Drain at Outfall 001  
RCRA: Active Large Quantity Generator (MID048788749)

f. Access or Physical Constraints

A portion of the identified contamination is located under the operating facility. The soil type prevents effective treatment, and the facility has been conducting manual recovery and monitoring after active remediation failed to completely remediate the toluene plume beneath the building. It is noted that free product monitoring and recovery has not occurred since June 19, 2006 because measureable product has not been observed in the site monitoring well since that time.

g. Other Potential Areas of Investigation Based on Facility History

Limited information is available regarding other investigation activities at the site, with the exception of the work related to Michigan UST Leak ID#s: C-1142-92 & C-0155-92. A summary of completed investigative activities was provided to EPA (in a letter dated May 22, 2014) in response to EPA's March 10, 2014 electronic mail in which they identified several data gaps that they stated needed to be further investigated.

h. Other

Not applicable.

#### IV. Conceptual Site Model

The following sections describe the PPG Adrian Conceptual Site Model (CSM). The CSM is based on information currently available for the facility and surrounding areas. This information will be updated based on new data generated during the investigation. The current CSM is based on the existing data, which reveals that toluene released at a former UST area is present at concentrations that suggest the presence of free-phase light non-aqueous phase liquids. The site geology appears to limit the potential for contaminant migration in the groundwater. An asphalt drive and the concrete foundation of the building cover the area where the former UST was located, limiting the potential for exposure via ingestion. Industrial hygiene air samples collected within the building indicate there is no evidence of VI, possibly due to the depth of the contamination and physical nature of the contaminant. If more aggressive active remediation is not undertaken, long-term controls will be needed to ensure the contaminant can be managed in-place, and prevent the potential for future exposure to contamination by construction workers.

##### Site stratigraphy and general hydrogeology:

- Variable thickness of silty clay and limited fill materials (e.g., gravel) to a depth ranging from approximately 8-14 feet bgs.
- Sand and silty sand underlying the silty clay unit to an estimated depth of approximately 60 feet bgs. Groundwater occurs within this sand and silty sand unit at approximately 30 feet under partially/semi-confined conditions. The shallow groundwater flow direction is toward the southwest, but confining conditions southwest of the tank bed may alter groundwater flow, where groundwater may be in contact with the shallower clay.
- Silty clay underlies the sand and silty sand aquifer. Topography of the deep clay is unidentified.

**Current and future site land use:** industrial

**Current and future surrounding property land use:** mixed industrial and residential

The CSM will be updated throughout the Corrective Action lifecycle as more information becomes available. The CSM must be updated to include an identification of all potential sources for all environmental media, current contaminant concentrations, migration pathways, and potential complete exposure pathways to human and ecological receptors on site and off site, such as the potential for inhalation or ingestion from former SWMUs that are not adequately capped or have been disturbed, or migration of contaminated groundwater off site from these areas.

The CSM is used to verify short-term goals of ensuring that (1) humans are not being exposed to unacceptable levels of contamination, and (2) contaminated groundwater is not migrating above levels of concern beyond its current extent. The final goal is to ensure that all potential sources have been assessed for appropriate pathways of exposure, to achieve media cleanup objectives, and to control source(s) of release so as to reduce or eliminate further releases that may pose a threat to human health and the environment.

Since the majority of the Adrian site has been investigated and (to some degree) remediated, a preliminary CSM will be provided as part of the RFI Work Plan (see Section V). Following the collection and evaluation of additional data as outlined in the RFI Work Plan, a final CSM will be developed by updating the preliminary CSM during the preparation of the RFI Report. The primary components of the CSM will include:

a. Sources and Extent of Known Contamination

At present, the primary release is related to toluene which is located north of the building. The release impacts groundwater, but the identified plume appears to be isolated and stable. The impact does not appear to migrate beyond the building, and wells downgradient have consistently been clean. The depth of the contamination reduces the potential for inhalation, as evidenced by indoor air sampling conducted by the facility. Releases at the surface impoundments and trench have not accurately been quantified, and the facility was provided a summary of a limited scope of work to address related data gaps in September 2013. Sufficient data are not currently available to conclusively link the other groundwater impacts to specific sources of SWMUs. Sampling is intended to target the Michigan Part 201 compounds, primarily VOCs (including 1,4-dioxane), SVOCs, and metals in soil and groundwater.

b. Contaminant Transport/Migration Pathways

There is no known exposure to impacts in soil, soil vapor, or groundwater at the site. The facility achieved the CA725 and CA750 environmental indicators in 2007 based on existing information from the former Solvent Station I area.

Migration pathways identified for assessment during the CAF meeting included:

- Migration to groundwater (soil leaching),
- Groundwater flow,
- Soil fugitive dust or volatilization to ambient air, and



- Potential VI (if evaluation is necessary based on the results of groundwater investigation to be conducted during the RFI).

c. Tentative Exposure Pathways

There are no known active exposure pathways related to the toluene release, but the potential exists for exposure to construction workers during future activities because an Environmental Restrictive Covenant (ERC) is not in place to prevent excavation in the area. In addition, the potential for exposure to onsite and offsite workers via ingestion or inhalation of contaminated soil, soil vapor, or groundwater at or emanating from former SWMUs exists because these potential source areas have not been sufficiently evaluated to determine the risks.

i. Exposure Receptors

There are no known receptors because the pathway to onsite workers is incomplete for the toluene release. Receptors related to the former SWMUs must be further evaluated, and controls are needed to prevent exposure to identified impacts. Tentative exposure receptors included:

- On site: industrial site workers,
- Off site: industrial site workers or residential receptors, and
- Onsite and offsite ecological receptors (not believed to be a current concern).

ii. Exposure Point and Exposure Medium

There are no known points of exposure for the toluene release. Receptors related to the former SWMUs must be further evaluated, and controls are needed to prevent exposure to identified impacts. Tentative exposure points included:

- Soil direct contact,
- Soil ingestion, and
- Soil vapor inhalation from contaminated soil or groundwater.

iii. Exposure Routes

There are no known routes of exposure for the toluene release. Receptors related to the former SWMUs must be further evaluated, and controls are needed to prevent exposure to identified impacts. Tentative exposure routes included:

- Dermal contact,
- Inhalation of fugitive dust or vapors, and
- Accidental/incidental ingestion.

d. Discussion of Unknowns and Uncertainty

With respect to earlier work, PPG's assessment of certain SWMUs and AOCs (specifically former leach beds and former UST areas) relied primarily on the screening of the shallow soils using an organic vapor analyzer

(OVA) to identify possible impacts, with limited laboratory analyses of select soil samples. Most borings were terminated at shallow depths, upgradient from the SWMUs, preventing the accurate evaluation of the potential for releases. Detection limits for those samples that were analyzed by the laboratory are high compared to those currently acceptable, also preventing a complete analysis. Therefore, additional analytical data will be collected to evaluate data gaps for SWMU 14, SWMU 15, SWMU 16, and SWMU 19. EPA has requested that soil and groundwater samples be collected for VOCs (including 1,4-dioxane), SVOCs, and metals, following appropriate field screening to justify the selection of sampling intervals.

Quarterly (and currently, semiannual) reporting related to the UST releases has identified 1,1,1-TCA in groundwater at a location upgradient from the former tank bed. Additional information will be obtained to determine the source location, if any, and concentration in the soil, and the magnitude and extent of the 1,1,1-TCA impact in the groundwater in the area of MW-2 and former TW-6. If additional data are unavailable, a limited number of soil and groundwater samples should be collected and analyzed for VOCs (in addition to 1,4-dioxane) to determine the extent of impacts in the area around MW-2, following appropriate field screening to justify the selection of sampling intervals. Monitoring Well MW-10 should also be sampled for VOCs (including 1,4-dioxane), SVOCs, and metals. Additional information will be gathered regarding the soil piles previously located in the vicinity of Monitoring Well MW-10. The origin of these soil piles should be documented, and the soils should also be sampled and analyzed for VOCs (including 1,4-dioxane), SVOCs, and metals to confirm that they were not generated from impacted areas.

Samples from the former UST area located northeast of the building were assessed through field screening, followed by limited analyses of soil samples. A hydrocarbon plume was identified in this general area using OVA screening results. No contaminants were detected in the soil samples analyzed, but the screening results displayed increasing concentrations with increasing depth, suggesting the impacts may have migrated to depths that have not been fully assessed. The borings were also installed upgradient from the former tank bed relative to groundwater flow, and were terminated much shallower than the depth where groundwater is located, and laboratory detection limits for samples were much higher than those currently considered acceptable. Additional data will be gathered to determine the extent of impacts. If additional data are unavailable, soil and groundwater samples should be collected for analysis of VOCs (including 1,4-dioxane), SVOCs, and metals in this area, following appropriate field screening to justify the selection of sampling intervals. Subsurface conditions in the area of the former UST area east of SWMU 13 (former USTs containing textile spirits, isopentane, isohexane, naphthol spirits, and tri-octyl phosphate, were removed in December 1987) have also not been assessed. Soil and groundwater samples will be obtained from this area based on field screening results and analyzed for VOCs (including 1,4-dioxane), SVOCs, and metals.

It is estimated that the proposed borings in these areas, combined with soil and groundwater analyses from each boring, will establish with greater confidence in the site conditions and controls that may be required for a potential Corrective Action remedy. As previously mentioned, PPG is working directly with MDEQ (in coordination with EPA) to continue to address and ultimately close out Releases #C-0155-92 and #C-1142-92. A potential remedy for the site based on information collected to date may include a risk assessment with groundwater modeling and/or a plume stability demonstration, combined with an ERC to restrict on-site groundwater use and limit the site's use to industrial/commercial purposes, if supported by the additional data.

## **V. RFI Work Plan**

EPA is requesting an RFI Work Plan to address the data gaps outlined above to ensure the assumptions regarding migration of contaminated groundwater and human exposures are valid on a site-wide basis for

several potential sources of releases at SWMUs and AOCs. Further testing will determine the ERCs needed to address residual contamination. The RFI Work Plan should utilize EPA's Triad Approach to include Systematic Planning, Dynamic Work Strategies, and Real-Time Measurement Technologies. The RFI Work Plan should reflect these components and principles within the following general context:

a. Scope and Objectives of the Investigation

The scope and objectives of the investigation are characterization of the nature and extent of COCs to fill CSM data gaps, and evaluate risk considerations and performance objectives (Corrective Action goals). A limited scope of investigation has been proposed to the facility, including 13 soil borings for analysis of VOCs (including 1,4-dioxane), SVOCs, and metals to characterize and delineate the horizontal and vertical distribution of potentially impacted soil and groundwater. The areas of interest include SWMU 14, SWMU 15, SWMU 16 and SWMU 19. No VI investigation of VOCs has been planned, and may need to be re-visited based on results of future investigations. Proposed boring locations are presented on Figure 1.

b. Screening Levels

Screening levels should capture the agreed upon risk-based screening levels to be used for characterization. Screening criteria will include MDEQ's Part 201 screening levels including new VI guidance (May 2013). Site investigations will include sampling sufficient to define the vertical and horizontal extent of potentially impacted soil and groundwater to both residential and non-residential land use criteria, but any Corrective Actions will consider actual land use (i.e., industrial on site) and may incorporate institutional/engineering controls.

c. Adaptive Approach

An adaptive approach should be used in the RFI Work Plan to identify flexible and adaptable sampling approaches (e.g., iterative sampling) that could improve the efficiency and timeliness of the investigation by reducing the number of field mobilizations and/or exchanges between parties during phases of the investigation (dynamic strategies and high resolution). With a strong RFI Work Plan, in cases where the applicable screening criteria are exceeded, EPA anticipates the facility will voluntarily implement efforts to delineate the impacts in three dimensions for all affected media to ensure that the area of exposure is accurately quantified.

d. Quality Assurance Project Plan (QAPP)

A QAPP will be incorporated in the RFI Work Plan and will establish the Data Quality Objectives (DQOs) and Standard Operating Procedures (SOPs) that will be employed during site investigations. The QAPP will be consistent with EPA Region 5 requirements.

i. Data Quality Objectives

DQOs will be identified in accordance with the R5 SOP.

ii. Standard Operating Procedures

A list of SOPs, including the Superfund Risk Assessment Guidance, Soil Screening Guidance and other pertinent documents, will be included in the LEAN CAFA model.

e. Modeling

Modeling may be used to evaluate the potential extent of groundwater impacts if they are found. In most cases, it is anticipated that the collection of empirical data will be sufficient to delineate impacts. Additionally, groundwater analytical time trend plots may be used to demonstrate stability of groundwater quality.

f. Sampling Approach/Design

The sampling approach/design will summarize methods, strategies, and guidance (real-time, high resolution).

g. Sampling Analysis

Sampling analysis will include a summary of Constituents of Potential Concern (COPC) per medium, detection limits, reporting limits, field techniques, and use of qualitative vs. quantitative measurements, etc.

h. Use of Historical Data

Prior work has been evaluated, and was used to develop the scope of limited assessment identified. The use of historic data for PPG should focus on the closure of the interim status storage area and the toluene release, given that limited data exist for other areas of the site. Historical data should be summarized at the beginning of the document to help establish the framework for the CSM and path forward. Extensive groundwater data exist for most of the site monitoring wells. These data will likely be included in the RFI Report to demonstrate groundwater stability.

i. Background

Not applicable.

j. Health and Safety Plan (HSP)

A facility-specific HSP will be developed prior to implementing work. The HSP will account for known and likely safety concerns.

k. Community Involvement and Environmental Justice

Outreach does not appear to be needed at this point. A Preliminary Environmental Justice (EJ) report shows the facility is in an EJ area. The Communication Plan under this RFI Work Plan using these dynamic work strategies will require a clear chain of communication so that real-time decisions can be made.

l. Work Plan Implementation Schedule

A schedule for anticipated RFI work will be presented starting with the approval of the RFI Work Plan.

m. Intended Outcomes of the RFI Work Plan

The intent of the RFI Work Plan is to provide a common understanding of current conditions and the preliminary CSM. The document will outline activities to be conducted to fill data gaps such that potential remedial alternatives can be evaluated under the context of the facility's Corrective Action obligations.

## **VI. Interim Measures (IMs)**

Not applicable.

- a. Immediate IMs

Not applicable.

- b. Future Potential IMs

Not Applicable.

## **VII. Goals and Expectations**

Prior to and during the CAF meeting, the EPA and PPG identified the following goals and expectations of the CAF process. Each goal and expectation is summarized below. PPG will evaluate the maximum levels and extent of impacts from hazardous wastes and/or hazardous constituents present in specific sources areas (including SWMU 14, SWMU 15, SWMU 16, and SWMU 19), to evaluate the maximum exposure potential to onsite and offsite receptors, determine the Corrective Action requirements at the facility, and implement remediation or long-term controls to manage current and future potential exposures. The examples below are suggested to identify goals and expectations in addition to key elements of other sections of the CAF, such as elements of the site characterization, CSM, and/or RFI Work Plan discussions identified in Sections III, IV, and V above, respectively.

- Land use/reasonably expected future land use related to characterization and remediation - the facility will use an industrial/commercial land-use restriction, and construction worker notifications to eliminate the potential for current/future exposures to contamination.
- Expected groundwater use/process for addressing groundwater contamination including State, Federal, and local requirements - the facility will implement an onsite groundwater use restriction to eliminate the potential for current/future exposures to contamination.
- Coordination with other programs - the facility will continue to work with MDEQ to address program requirements for the identified releases that are being addressed under the Part 213 program.

Other considerations:

- Existing background conditions and consideration in RFI process (established during closure of the former Interim Status drum storage area with MDEQ concurrence)
- Use of historical data (limited use)
- Use of presumptive remedies
- Potential facility process/land use/owner changes

- Toxicity/criteria changes
- Expected risk range issues (Target Cancer Risk and Non-Cancer Hazard Index)
- Expected process for addressing remediation
- Unknown sources (if source cannot be found)
- Source removal vs. source control (containment)
- Use of risk based or pathway elimination approach
- Potential for determination of technical impracticability (TI)
- Use of institutional and engineering controls

## **VIII. Other Potential Issues**

### **a. Format for Data/ Information Exchange/Submissions**

EPA believes electronic submittals will be sufficient for purposes of review. Report copies can be submitted in electronic format on CD, or can be uploaded to a document sharing website created by PPG. PPG will establish an information repository at the local library in Adrian, Michigan for public review of all documents submitted in connection with Corrective Action. Routine correspondence between technical experts can be accomplished by electronic mail.

### **b. Interim Submissions Approaches**

Interim submissions should also be submitted in electronic format.

### **c. Schedule of Deliverables (e.g., RFI Work Plan)**

Within 45 days of the CAF meeting on November 20, 2014, EPA requested a final version of the CAF from the facility, due on January 5, 2015. PPG provided the requested CAF document on January 5, 2015. EPA requested revisions and the revised version of the CAF was submitted on January 21, 2015. Following discussions on the AOC, the CAF was updated to include additional background information on previous remedial activities. EPA will provide a response within 21 days from receipt of the revised CAF. Within 115 days after the CAF meeting on November 20, 2014, EPA requested submittal of an RFI Work Plan. It was contemplated that the RFI Work Plan would be submitted in early 2015. The RFI Work Plan will include a schedule based on EPA approval within two months of submittal. EPA previously outlined the general scope of work by electronic mail on September 17, 2013. Within three months of EPA's approval of the RFI Work Plan, EPA requests PPG implement the investigation to assess outstanding concerns related to the site's former use (the target date of August 5, 2015 was delayed by negotiation of the AOC). The parties can schedule a conference call quarterly to discuss the project and any concerns as needed.

### **d. Elements of RFI**

A complete RFI will demonstrate that all land-based SWMUs and confirmed releases have been adequately assessed for all applicable media, that the investigation results are representative of worst-case scenarios in order to identify the maximum potential impact to human health and the environment, and that pathways of

potential exposure can be addressed through engineering or institutional controls, remediation, or a combination of any such measures.

RFI to include:

- Characterization of nature and extent of soil and groundwater,
- Interim action results (if applicable),
- Use default EPA threshold requirements and balancing criteria to provide sufficient detail regarding corrective measures strategy to justify proposed remedy, and
- Updated CSM only if needed to address unanticipated changes or more complex remedial issues (e.g., onsite chlorinated solvent source).

e. Risk Assessment

EPA believes a combination of risk assessment (pathway elimination) and groundwater modeling may be sufficient to address the known impacts with respect to RCRA Corrective Action, based on the information collected to date. MDEQ will determine the cleanup goals with respect to the site releases of toluene. Offsite sample screening, if needed, will be based on a target cancer risk of  $10^{-6}$  and a non-cancer hazard index of 1.0.

f. Expected Process for Addressing Remediation

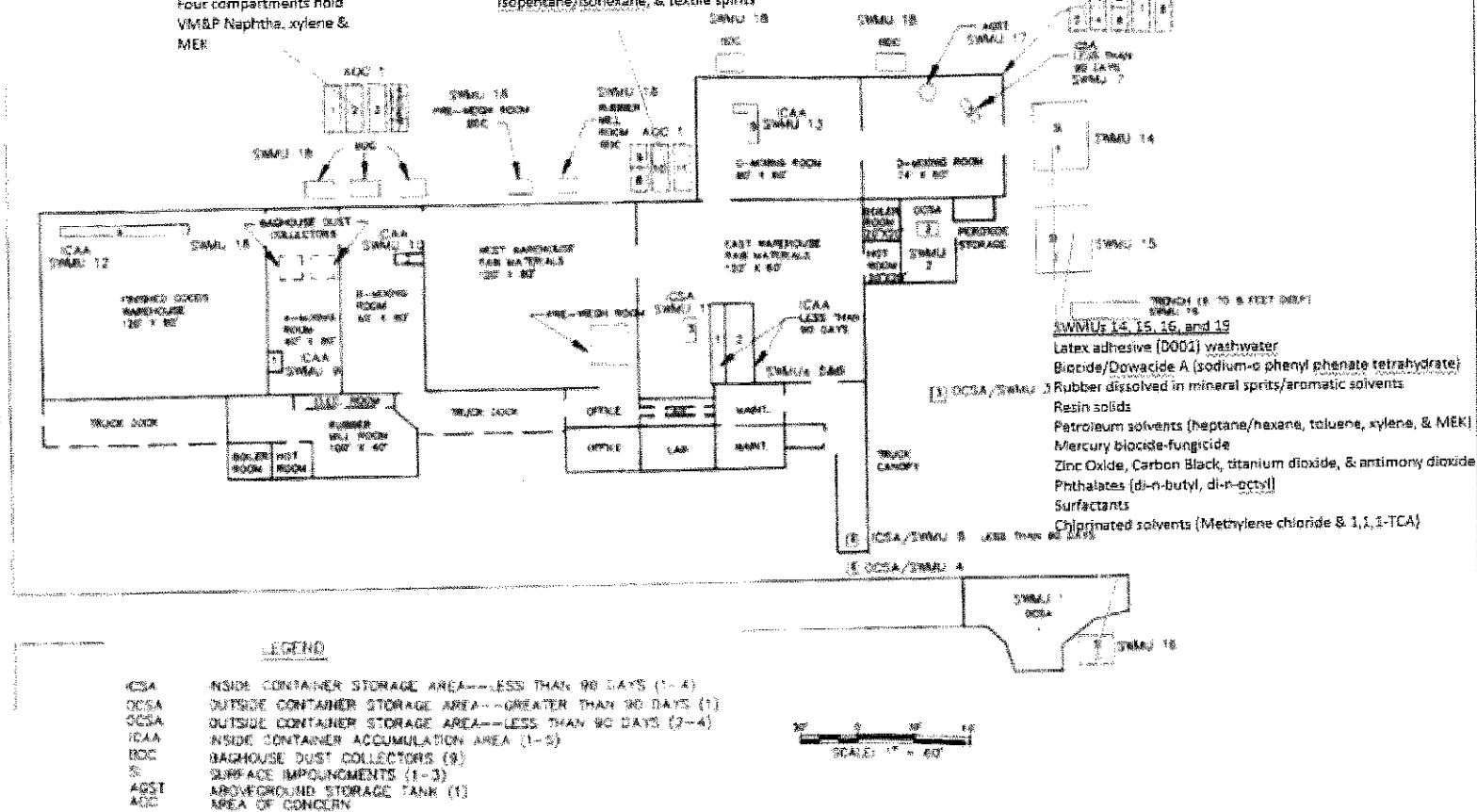
Unknown sources (if source cannot be found) may potentially exist for observed chlorinated solvents. RFI will include reasonable investigation to sufficiently characterize residual chlorinated solvents to determine the presence or absence of an onsite source. Source removal versus source control will depend on locations of impacts and the collection of additional data. Pathway elimination approach is likely to be employed to address on-site impacts. Use of institutional and/or engineering controls is expected to prevent exposure. Institutional controls may include soil management plan for areas above industrial criteria, and/or ERCs.

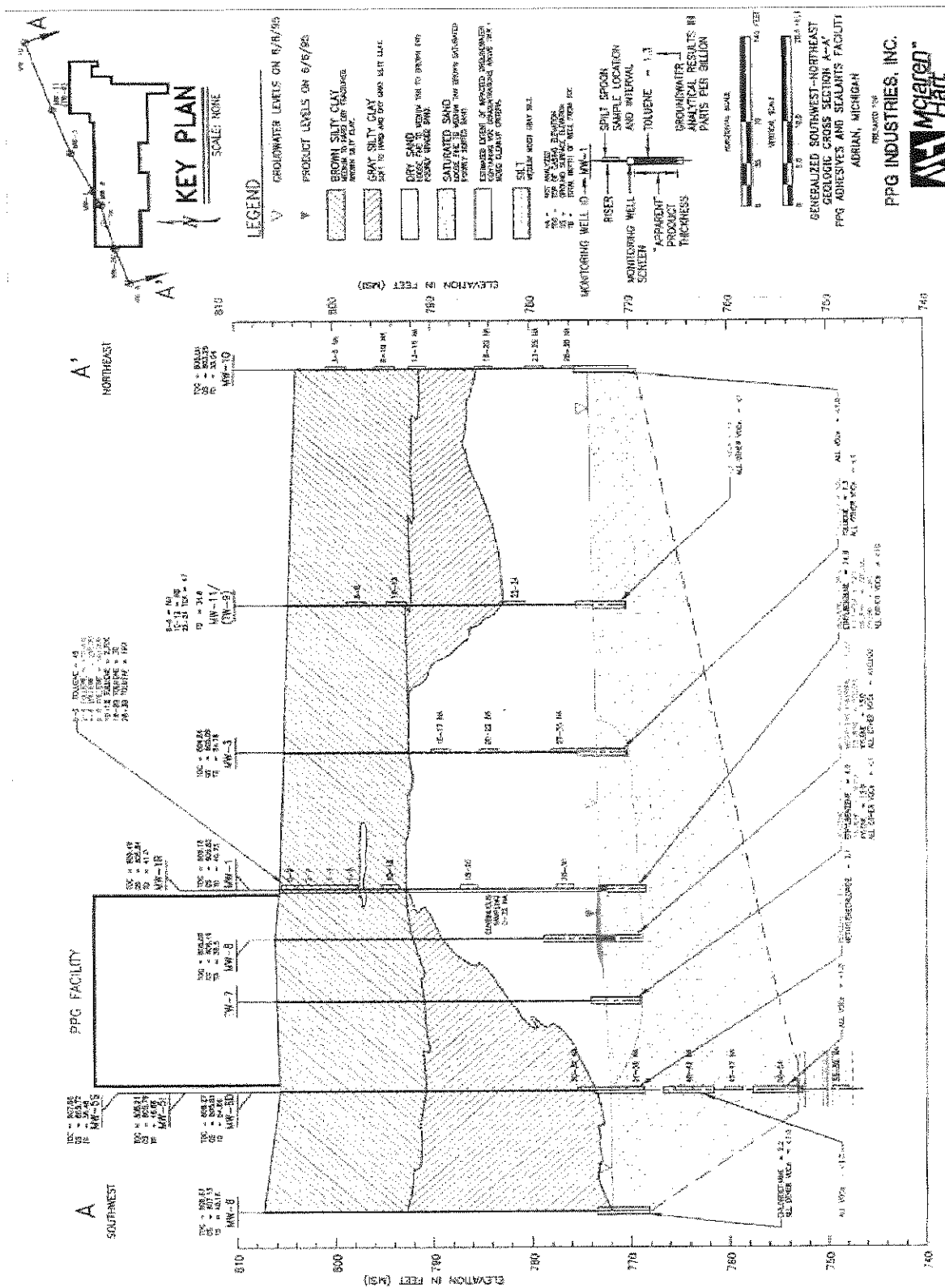


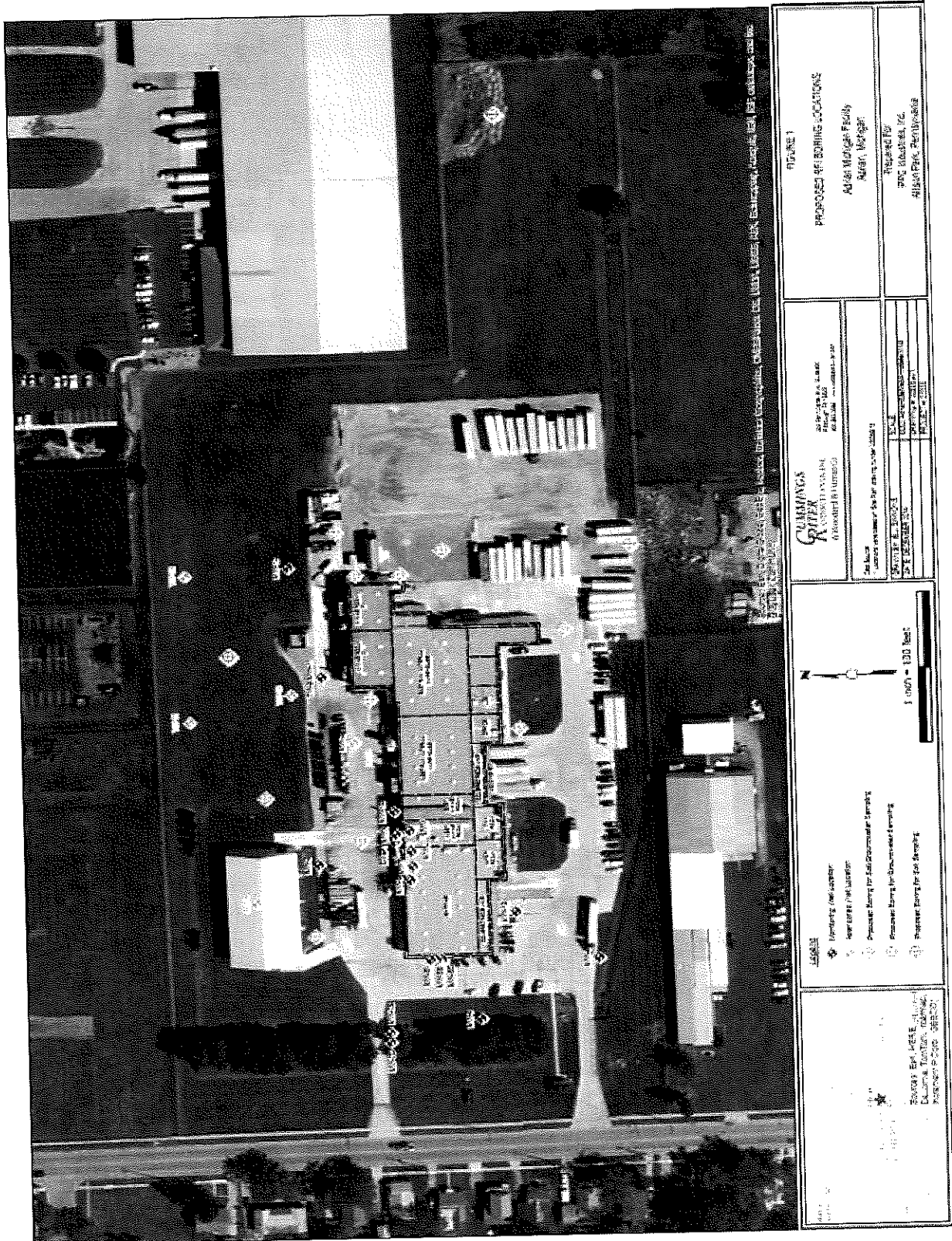
Solvent Station II (response indicates tanks related to 1,1,1-TCA)  
Three 12,000 gallon USTs (rem 12/7/87)  
 Naphthol spirits, tri-octyl phosphate,  
 isopentane/isohexane, & textile spirits

Solvent Station 1  
Four 12,000 gallon USTs  
Four compartments hold  
VMEP Naphtha, xylene &  
MEK

Solvent Station III  
Five 12,000 gallon USTs (rem 10/6/88)  
Compartments 1 & 2 = MEK  
Compartments 3 & 5 = xylene  
Compartments 4 & 6 = toluene  
Compartments 7 & 8 = VM&P Naphtha







In the matter of: PPG Industries, Inc. (MID 048 788 749).

Docket Number: **RCRA-05-2015-0017**

**CERTIFICATE OF SERVICE**

I certify that I served a true and correct copy of the fully executed 3008(h) Administrative Order on Consent, which was filed on September 24, 2015, this day in the following manner to the addressees:

Copy by certified mail

Return-receipt requested:

Mrs. Jane Valenta, Vice President  
Environment, Health and Safety  
PPG Industries  
One PPG Place  
Pittsburgh, Pennsylvania 15272  
MID 048 788 749

Copy by email to

Attorney for Complainant:

Thomas Williams  
williams.tom@epa.gov.

Copy by e-mail to

Regional Judicial Officer:

Ann Coyle  
coyle.ann@epa.gov.



Dated: \_\_\_\_\_

**SEP 24 2015**

Angela Jackson  
Angela Jackson

Administrative Program Assistant

Remediation and Reuse Branch

U.S. Environmental Protection Agency, Region 5

77 West Jackson Boulevard

Chicago, Illinois 60604